IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Paul S. Keim et al.		
Serial No.:	tba	Art Unit:	tba
Filed:	December 21, 2004	Examiner:	Unassigned
For:	*A HIGH RESOLUTION TYPING SYSTEM FOR PATHOGENIC BORRELIA*		

INFORMATION DISCLOSURE STATEMENT PURSUANT TO 37 C.F.R. § 1.97

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

Dear Sir:

Applicant hereby brings to the attention of the Examiner the documents noted on the accompanying Form PTO-1449. This Information Disclosure Statement is being filed before the mailing date of a first Office Action.

It is respectfully requested that the information cited herein be expressly considered during the prosecution of this application and made of record on any patent to issue therefrom. Inclusion of a reference on the enclosed 1449 is not to be construed as indicating the reference is prior art. Provision of this Information Disclosure Statement is not to be taken as evidence that a search has been conducted.

The Commissioner is hereby authorized to charge any cost that may be due to Deposit Account No. 17-0055.

Respectfully submitted,
QUARLES & BRADY STREICH LANG, LLP

December 21, 2004

By: Barbara J. Luther
Barbara J. Luther, 33,954

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Sheet 1 of 5

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Application Number	
Filing Date	
First Named Inventor	Paul S. Keim
Art Unit	tba
Examiner Name	tba
Attorney Docket Number	112624.00082

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A	US- 4,683,195	07-28-87	Mullis et al.	
	B	US- 4,683,202	07-28-97	Mullis	
	C	US- 6.479.235	11-12-02	Schumm et al.	
	D	US- 6.270.973	08-07-01	Lewis et al.	
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
	E	WO98/58943 A1	12-30-98	Fraser et al.		

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OTHER PRIOR ART–NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
	F	ANDERSON, J. F. 1991. Epizoology of Lyme borreliosis. Scand. J. Infect. Dis. Suppl. 77:23-34.	
	G	BALMELLI, T., 1995. Association between different clinical manifestations of Lyme disease and different species of Borrelia burgdorferi sensu lato. Res. Microbiol. 146:329-340.	
	H	BARBOUR, A. G., 1993. The biological and social phenomenon of Lyme disease. Science 260:1610-1616.	
	I	BELFAIZA, D., 1993 Genomic fingerprinting of Borrelia burgdorferi sensu lato by pulsed-field gel electrophoresis. J. Clin. Microbiol. 31:2873-2877	
	J	BURGDORFER, W., 1991. Relationship of Borrelia burgdorferi to its arthropod vectors. Scand. J. Infect. Dis. Suppl. 77:35-40.	
	K	BUSCH, U.,1996. Three species of Borrelia burgdorferi sensu lato (B. burgdorferi sensu stricto, B. afzelii, and B. garinii) identified from cerebrospinal fluid isolates by pulsed-field gel electrophoresis and PCR. J. Clin. Microbiol. 34:1072-1078.	
	L	CASJENS S, 2000. A bacterial genome in flux: the twelve linear and nine circular extrachromosomal DNAs in an infectious isolate of the Lyme disease spirochete Borrelia burgdorferi. Mol Microbiol. 35:490-516.	
	M	CASJENS S., 1995 Linear chromosomes of Lyme disease agent spirochetes: genetic diversity and conservation of gene order. J. Bacteriol. 177:2769-2780	
	N	CENTERS FOR DISEASE CONTROL AND PREVENTION. Lyme disease-United States, 1997. Morbid. Mortal. Weekly Rep. 46:531-535.	
	O	CENTERS FOR DISEASE CONTROL AND PREVENTION. 1999. Availability of Lyme disease vaccine. Morbid. Mortal. Weekly Rep. 48:35-36, 41.10	

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Sheet 3 of 5

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	P	DYKHUIZEN D.E. et al., 2001. The implications of a low rate of horizontal transfer in Borrelia. Trends Microbiol. 9:344-50.	
	Q	DYKHUIZEN D. E.et al., 1993. Borrelia burgdorferi is clonal: implications for taxonomy and vaccine development. Proc. Natl. Acad. Sci. USA 90: 10163-10167.	
	R	EGGERS C.H. et al., 2001. Transduction by phiBB-1, a bacteriophage of Borrelia burgdorferi. J Bacteriol. 183:4771-8	
	S	FARLOW J, et al. Francisella tularensis Strain Typing Using Multiple-Locus, Variable-Number Tandem Repeat Analysis. J Clin Microbiol. 2001 39:3186-92.	
	T	FORTEZ, M., D. et al., 1997 Phylogenetic analysis of Borrelia burgdorferi sensu stricto by arbitrariril primed PCR and pulsed-field gel electrophoresis Int. J. System. Bacteriol. 47:11-18	
	U	FRASER, C. M., et al., 1997. Genomic sequence of a Lyme disease spirochaete, Borrelia burgdorferi. Nature 390:580-586.	
	V	FUKUNAGA, M., et al., 1996. Borrelia tanukii sp. nov. and Borrelia turdae sp. nov. found from ixodid ticks in Japan: rapid species identification by 16S rRNA gene-targeted PCR analysis. Microbiol. Immunol. 40:877-881.	
	W	GERN, L., A. et al., 1998. Euro-pean reservoir hosts of Borrelia burgdorferi sensu lato. Zentbl. Bakteriol. 287:196-204.	
	X	HUBULEK, Z.,et al., 1997. Distribution of Borrelia burgdorferi sensu lato genomic groups in Europe, a review. Eur. J. Epidemiol. 13:951- 957.	
	Y	KAWABATA, H., et al., 1993. Genomic analysis of Borrelia japonica sp. nov. isolated from Ixodes ovatus in Japan. Microbiol. Immunol. 37:841-848.	

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OTHER PRIOR ART–NON PATENT LITERATURE DOCUMENTS

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	Z	KEIM P. et al., 2000. Multiple-locus variable-number tandem repeat analysis reveals genetic relationships within Bacillus anthracis. J Bacteriol May; 182:2928-36.	
	AA	MARCONI, R. T., et al.,. 1995. Identification of novel insertion elements, restriction fragment length polymorphism patterns, and discontinuous 23S rRNA in Lyme disease spirochetes: phylogenetic analyses of rRNA genes and their intergenic spacers in	
	AB	MARTI Ras., et al., 1997 Borelia burgdorferi sensu stricto, a bacterial species "made in the USA"? Int. J. System. Bacteriol. 47: 1112-1117	
	AC	MURRAY, P.R., et al., 1999. Manual of Clinical Microbiology. 7th edition. ASM Press, Washington D.C.	
	AD	NADELMAN, R. B., et al., 1998. Lyme borreliosis. Lancet 352:557-565.	
	AE	NICHOLLS, T. H., et al., 1996. Lyme disease spirochetes in ticks collected from birds in mid-western United States. J. Med. Entomol. 33:379-384.	
	AF	OHLENBUSCH, A., et al., 1996. Etiology of the acrodermatitis chronica atrophicans lesion in Lyme disease. J. Infect. Dis. 174:421-423.	
	AG	PETER, O., et al., 1997. Association of distinct species of Borrelia burgdorferi sensu lato with neuroborreliosis in Switzerland. Clin. Microbiol. Infect. 3:423-411.	
	AH	PICKEN, R. N., et al., 1998. Identification of three species of Borrelia burgdorferi sensu lato (B. burgdorferi sensu stricto, B. garinii, and B. afzelii) among isolates from acrodermatitis chronica atrophicans lesions. J. Investig. Dermatol. 110:211-214	
	AI	POSTIC D., et al., 1999 Common ancestry of Borrelia burgdorferi sensu lato strains from North America and Europe. J. Clin. Microbiol. 37:3010-3012	

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	AJ	POSTIC, D., et al., 1998. Expanded Diversity among California Borrelia isolates and description of Borrelia bissettii sp. nov. (formerly Borrelia group DN127). J. Clin. Microbiol. 36:3497-3504	
	AK	SCHMID, G. P. 1985. The global distribution of Lyme disease. Rev. Infect. Dis. 7:41-50.	
	AL	WANG, G., et al., 1999. Molecular typing of Borrelia burgdorferi sensu lato: taxonomic, epidemiological, and clinical Implications. Clin. Micr. Rev. 12:633-653.	
	AM	WEIR, B.S. 1990. Genetic Data Anlysis. Sinauer Associates, Inc. Sunderland, MA. USA.	

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